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**Dynamics of associating polymers and the sticky Rouse model:
a study by combined dielectric and dynamic mechanical techniques**
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SANGORO, University of Tennessee, Knoxville — Reversible association through
non-covalent bonding is ubiquitous in the soft matter world. Despite decades of
studies, the dynamics of associating polymers have not been well understood. Here
we examine the dynamics of butadiene- and isoprene-based model polymeric systems
with pairwise association through hydrogen bonding. Compared to ionomers, where
reversible crosslinks are typically not well defined, these hydrogen bonding polymers
are associated through strictly binary contacts and thus provide a better opportu-
nity to test theoretical ideas. By combining dielectric spectroscopy and dynamic
mechanical measurement, we are able to identify both chain and junction dynamics
and analyze their motional coupling mechanism. The results are discussed in the
context of the sticky Rouse model.

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